App Serial # 09/977,053   Exhibit M
Friddle et al.   LEX-0128-USA
Novel Human Membrane Protein and Polynucleotides Encoding the Same

Query= SEQ ID NO:3
          (10,716 letters)

	Score	E
Sequences producing significant alignments:	(bits)	Value
AL158158.14.1.194835	5531	0.0
AL592463.10.1.96779	1053	0.0
AL354982.12.1.119077	470	e-129

>AL158158.14.1.194835
          Length = 194835

 Score = 5531 bits (2790), Expect = 0.0
 Identities = 2793/2794 (99%)
 Strand = Plus / Minus

Query: 6647   agcatacaactggcaggatctttgagagtgaagtgaggtatcagtgtaacccgggctata 6706
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Sbjct: 173266   agcatacaactggcaggatctttgagagtgaagtgaggtatcagtgtaacccgggctata 173207

Query: 6707   agtcagtcggaagtcctgtatttgtctgccaagccaatcgccactggcacagtgaatccc 6766
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 173206   agtcagtcggaagtcctgtatttgtctgccaagccaatcgccactggcacagtgaatccc 173147

Query: 6767   ctctgatgtgtgttcctctcgactgtggaaaacctcccccgatccagaatggcttcatga 6826
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 173146   ctctgatgtgtgttcctctcgactgtggaaaacctcccccgatccagaatggcttcatga 173087

Query: 6827   aaggagaaaactttgaagtagggtccaaggttcagtttttctgtaatgagggttatgagc 6886
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Sbjct: 173086   aaggagaaaactttgaagtagggtccaaggttcagtttttctgtaatgagggttatgagc 173027

Query: 6887   ttgttggtgacagttcttggacatgtcagaaatctggcaaatggaataagaagtcaaatc 6946
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 173026   ttgttggtgacagttcttggacatgtcagaaatctggcaaatggaataagaagtcaaatc 172967

Query: 6947   caaagtgcatgcctgccaagtgcccagagccgcccctcttggaaaaccagctagtattaa 7006
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 172966   caaagtgcatgcctgccaagtgcccagagccgcccctcttggaaaaccagctagtattaa 172907

Query: 7007   aggagttgaccaccgaggtaggagttgtgacattttcctgtaaagaagggcatgtcctgc 7066
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 172906   aggagttgaccaccgaggtaggagttgtgacattttcctgtaaagaagggcatgtcctgc 172847

Query: 7067   aaggcccctctgtcctgaaatgcttgccatcccagcaatggaatgactctttccctgttt 7126
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 172846   aaggcccctctgtcctgaaatgcttgccatcccagcaatggaatgactctttccctgttt 172787

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Query:  7127    gtaagattgttctttgtaccccacctcccctaatttcctttggtgtccccattccttctt 7186
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172786  gtaagattgttctttgtaccccacctcccctaatttcctttggtgtccccattccttctt 172727


Query:  7187    ctgctcttcattttggaagtactgtcaagtattcttgtgtaggtgggttttttcctaagag 7246
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172726  ctgctcttcattttggaagtactgtcaagtattcttgtgtaggtgggttttttcctaagag 172667


Query:  7247    gaaattctaccaccctctgccaacctgatggcacctggagctctccactgccagaatgtg 7306
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172666  gaaattctaccaccctctgccaacctgatggcacctggagctctccactgccagaatgtg 172607


Query:  7307    ttccagtagaatgtccccaacctgaggaaatccccaatggaatcattgatgtgcaaggcc 7366
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172606  ttccagtagaatgtccccaacctgaggaaatccccaatggaatcattgatgtgcaaggcc 172547


Query:  7367    ttgcctatctcagcacagctctctatacctgcaagccaggctttgaattggtgggaaata 7426
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Sbjct:  172546  ttgcctatctcagcacagctctctatacctgcaagccaggctttgaattggtgggaaata 172487


Query:  7427    ctaccaccctttgtggagaaaatggtcactggcttggaggaaaaccaacatgtaaagcca 7486
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Sbjct:  172486  ctaccaccctttgtggagaaaatggtcactggcttggaggaaaaccaacatgtaaagcca 172427


Query:  7487    ttgagtgcctgaaacccaaggagattttgaatggcaaattctcttacacggacctacact 7546
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Sbjct:  172426  ttgagtgcctgaaacccaaggagattttgaatggcaaattctcttacacggacctacact 172367


Query:  7547    atggacagaccgttacctactcttgcaaccgaggctttcggctcgaaggtcccagtgcct 7606
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172366  atggacagaccgttacctactcttgcaaccgaggctttcggctcgaaggtcccagtgcct 172307


Query:  7607    tgacctgtttagagacaggtgattgggatgtagatgccccatcttgcaatgccatccact 7666
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172306  tgacctgtttagagacaggtgattgggatgtagatgccccatcttgcaatgccatccact 172247


Query:  7667    gtgattccccacaacccattgaaaatggttttgtagaaggtgcagattacagctatggtg 7726
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172246  gtgattccccacaacccattgaaaatggttttgtagaaggtgcagattacagctatggtg 172187


Query:  7727    ccataatcatctacagttgcttccctgggtttcaggtggctggtcatgccatgcagacct 7786
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  172186  ccataatcatctacagttgcttccctgggtttcaggtggctggtcatgccatgcagacct 172127
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Query:  7787   gtgaagagtcaggatggtcaagttccatcccaacatgtatgccaatagactgtggcctcc  7846
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Sbjct: 172126   gtgaagagtcaggatggtcaagttccatcccaacatgtatgccaatagactgtggcctcc  172067


Query:  7847   ctcctcatatagattttggagactgtactaaactcaaagatgaccagggatattttgagc  7906
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 172066   ctcctcatatagattttggagactgtactaaactcaaagatgaccagggatattttgagc  172007


Query:  7907   aagaagacgacatgatggaagttccatatgtgactcctcaccctccttatcatttgggag  7966
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 172006   aagaagacgacatgatggaagttccatatgtgactcctcaccctccttatcatttgggag  171947


Query:  7967   cagtggctaaaacctgggaaaatacaaaggagtctcctgctacacattcatcaaactttc  8026
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171946   cagtggctaaaacctgggaaaatacaaaggagtctcctgctacacattcatcaaactttc  171887


Query:  8027   tgtatggtaccatggtttcatacacctgtaatccaggatatgaacttctggggaaccctg  8086
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171886   tgtatggtaccatggtttcatacacctgtaatccaggatatgaacttctggggaaccctg  171827


Query:  8087   tgctgatctgccaggaagatggaacttggaatggcagtgcaccatcctgcatttcaattg  8146
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171826   tgctgatctgccaggaagatggaacttggaatggcagtgcaccatcctgcatttcaattg  171767


Query:  8147   aatgtgacttgcctactgctcctgaaaatggcttttgcgttttacagagactagcatgg  8206
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171766   aatgtgacttgcctactgctcctgaaaatggcttttgcgttttacagagactagcatgg  171707


Query:  8207   gaagtgctgtgcagtatagctgtaaacctggacacattctagcaggctctgacttaaggc  8266
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171706   gaagtgctgtgcagtatagctgtaaacctggacacattctagcaggctctgacttaaggc  171647


Query:  8267   tttgtctagagaatagaaagtggagtggtgcctccccacgctgtgaagccatttcatgca  8326
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171646   tttgtctagagaatagaaagtggagtggtgcctccccacgctgtgaagccatttcatgca  171587


Query:  8327   aaaagccaaatccagtcatgaatggatccatcaaaggaagcaactacacatacctgagca  8386
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171586   aaaagccaaatccagtcatgaatggatccatcaaaggaagcaactacacatacctgagca  171527


Query:  8387   cgttgtactatgagtgtgaccccggatatgtgctgaatggcactgagaggagaacatgcc  8446
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171526   cgttgtactatgagtgtgaccccggatatgtgctgaatggcactgagaggagaacatgcc  171467
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Query:   8447   aggatgacaaaaactgggatgaggatgagcccatttgcattcctgtggactgcagttcac   8506
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Sbjct: 171466   aggatgacaaaaactgggatgaggatgagcccatttgcattcctgtggactgcagttcac   171407


Query:   8507   ccccagtctcagccaatggccaggtgagaggagacgagtacacattccaaaaagagattg   8566
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171406   ccccagtctcagccaatggccaggtgagaggagacgagtacacattccaaaaagagattg   171347


Query:   8567   aatacacttgcaatgaagggttcttgcttgagggagccaggagtcgggtttgtcttgcca   8626
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Sbjct: 171346   aatacacttgcaatgaagggttcttgcttgagggagccaggagtcgggtttgtcttgcca   171287


Query:   8627   atggaagttggagtggagccactcccgactgtgtgcctgtcagatgtgccaccccgccac   8686
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Sbjct: 171286   atggaagttggagtggagccactcccgactgtgtgcctgtcagatgtgccaccccgccac   171227


Query:   8687   aactggccaatggggtgacggaaggcctggactatggcttcatgaaggaagtaacattcc   8746
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171226   aactggccaatggggtgacggaaggcctggactatggcttcatgaaggaagtaacattcc   171167


Query:   8747   actgtcatgagggctacatcttgcacggtgctccaaaactcacctgtcagtcagatggca   8806
                |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171166   actgtcacgagggctacatcttgcacggtgctccaaaactcacctgtcagtcagatggca   171107


Query:   8807   actgggatgcagagattcctctctgtaaaccagtcaactgtggacctcctgaagatcttg   8866
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Sbjct: 171106   actgggatgcagagattcctctctgtaaaccagtcaactgtggacctcctgaagatcttg   171047


Query:   8867   cccatggtttccctaatggttttttcctttattcatgggggccatatacagtatcagtgct   8926
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 171046   cccatggtttccctaatggttttttcctttattcatgggggccatatacagtatcagtgct   170987


Query:   8927   ttcctggttataagctccatggaaattcatcaagaaggtgcctctccaatggctcctgga   8986
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 170986   ttcctggttataagctccatggaaattcatcaagaaggtgcctctccaatggctcctgga   170927


Query:   8987   gtggcagctcaccttcctgcctgccttgcagatgttccacaccagtaattgaatatggaa   9046
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 170926   gtggcagctcaccttcctgcctgccttgcagatgttccacaccagtaattgaatatggaa   170867


Query:   9047   ctgtcaatgggacagatttttgactgtggaaaggcagcccggattcagtgcttcaaaggct   9106
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Sbjct: 170866   ctgtcaatgggacagatttttgactgtggaaaggcagcccggattcagtgcttcaaaggct   170807
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Query: 9107    tcaagctcctaggactttctgaaatcacctgtgaagccgatggccagtggagctctgggt 9166
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Sbjct: 170806  tcaagctcctaggactttctgaaatcacctgtgaagccgatggccagtggagctctgggt 170747


Query: 9167    tcccccactgtgaacacacttcttgtggttctcttccaatgataccaaatgcgttcatca 9226
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Sbjct: 170746  tcccccactgtgaacacacttcttgtggttctcttccaatgataccaaatgcgttcatca 170687


Query: 9227    gtgagaccagctcttggaaggaaaatgtgataacttacagctgcaggtctggatatgtca 9286
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Sbjct: 170686  gtgagaccagctcttggaaggaaaatgtgataacttacagctgcaggtctggatatgtca 170627


Query: 9287    tacaaggcagttcagatctgatttgtacagagaaagggggtatggagccagccttatccag 9346
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Sbjct: 170626  tacaaggcagttcagatctgatttgtacagagaaagggggtatggagccagccttatccag 170567


Query: 9347    tctgtgagcccttgtcctgtgggtccccaccgtctgtcgccaatgcagtggcaactggag 9406
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 170566  tctgtgagcccttgtcctgtgggtccccaccgtctgtcgccaatgcagtggcaactggag 170507


Query: 9407    aggcacacacctatgaaagtgaagtgaaactcag 9440
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Sbjct: 170506  aggcacacacctatgaaagtgaagtgaaactcag 170473




 Score = 1336 bits (674), Expect = 0.0
 Identities = 674/674 (100%)
 Strand = Plus / Minus


Query: 5975    gctatactcttgctggtcttgacaccattgaatgcctggccgacggcaagtggagtagaa 6034
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 176049  gctatactcttgctggtcttgacaccattgaatgcctggccgacggcaagtggagtagaa 175990


Query: 6035    gtgaccagcagtgcctggctgtctcctgtgatgagccacccattgtggaccacgcctctc 6094
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175989  gtgaccagcagtgcctggctgtctcctgtgatgagccacccattgtggaccacgcctctc 175930


Query: 6095    cagagactgcccatcggctctttggagacattgcattctactactgctctgatggttaca 6154
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175929  cagagactgcccatcggctctttggagacattgcattctactactgctctgatggttaca 175870


Query: 6155    gcctagcagacaattcccagcttctctgcaatgcccagggcaagtgggtaccccccagaag 6214
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175869  gcctagcagacaattcccagcttctctgcaatgcccagggcaagtgggtaccccccagaag 175810
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Query: 6215    gtcaagacatgccccgttgtatagctcatttctgtgaaaaacctccatcggtttcctata 6274
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Sbjct: 175809 gtcaagacatgccccgttgtatagctcatttctgtgaaaaacctccatcggtttcctata 175750


Query: 6275    gcatcttggaatctgtgagcaaagcaaaatttgcagctggctcagttgtgagctttaaat 6334
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Sbjct: 175749 gcatcttggaatctgtgagcaaagcaaaatttgcagctggctcagttgtgagctttaaat 175690


Query: 6335    gcatggaaggctttgtactgaacacctcagcaaagattgaatgtatgagaggtgggcagt 6394
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175689 gcatggaaggctttgtactgaacacctcagcaaagattgaatgtatgagaggtgggcagt 175630


Query: 6395    ggaacccttcccccatgtccatccagtgcatccctgtgcggtgtggagagccaccaagca 6454
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175629 ggaacccttcccccatgtccatccagtgcatccctgtgcggtgtggagagccaccaagca 175570


Query: 6455    tcatgaatggctatgcaagtggatcaaactacagttttggagccatggtggcttacagct 6514
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175569 tcatgaatggctatgcaagtggatcaaactacagttttggagccatggtggcttacagct 175510


Query: 6515    gcaacaaggggttctacatcaaaggggaaaagaagagcacctgcgaagccacagggcagt 6574
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175509 gcaacaaggggttctacatcaaaggggaaaagaagagcacctgcgaagccacagggcagt 175450


Query: 6575    ggagtagtcctataccgacgtgccacccggtatcttgtggtgaaccacctaaggttgaga 6634
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 175449 ggagtagtcctataccgacgtgccacccggtatcttgtggtgaaccacctaaggttgaga 175390


Query: 6635    atggctttctggag 6648
               ||||||||||||||
Sbjct: 175389 atggctttctggag 175376



 Score =  446 bits (225), Expect = e-121
 Identities = 228/229 (99%)
 Strand = Plus / Minus


Query: 9438    cagatgtctggaaggttatacgatggatacagatacagatacattcacctgtcagaaaga 9497
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 168868 cagatgtctggaaggttatacgatggatacagatacagatacattcacctgtcagaaaga 168809


Query: 9498    tggtcgctggttccctgagagaatctcctgcagtcctaaaaaatgtcctctcccggaaaa 9557
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 168808 tggtcgctggttccctgagagaatctcctgcagtcctaaaaaatgtcctctcccggaaaa 168749
```

```
Query: 9558   cataacacatatacttgttcatggggacgatttcagtgtgaataggcaagtttctgtgtc 9617
              |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Sbjct: 168748 cataacacatatacttgtacatggggacgatttcagtgtgaataggcaagtttctgtgtc 168689


Query: 9618   atgtgcagaagggtatacctttgagggagttaacatatcagtatgtcag 9666
              |||||||.|||||||||||||||||||||||||||||||||||||||||
Sbjct: 168688 atgtgcagaagggtatacctttgagggagttaacatatcagtatgtcag 168640



 Score =  387 bits (195), Expect = e-103
 Identities = 195/195 (100%)
 Strand = Plus / Minus


Query: 5613   taggtgtaataaaggatatactctggccggtgataaagaatcatcctgtcttgctaacag 5672
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 193649 taggtgtaataaaggatatactctggccggtgataaagaatcatcctgtcttgctaacag 193590


Query: 5673   ttcttggagtcattcccctcctgtgtgtgaaccagtgaagtgttctagtccggaaaatat 5732
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 193589 ttcttggagtcattcccctcctgtgtgtgaaccagtgaagtgttctagtccggaaaatat 193530


Query: 5733   aaataatggaaaatatattttgagtgggcttacctacctttctactgcatcatattcatg 5792
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 193529 aaataatggaaaatatattttgagtgggcttacctacctttctactgcatcatattcatg 193470


Query: 5793   cgatacaggatacag 5807
              |||||||||||||||
Sbjct: 193469 cgatacaggatacag 193455



 Score =  355 bits (179), Expect = 4e-94
 Identities = 179/179 (100%)
 Strand = Plus / Minus


Query: 5352   agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 5411
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194762 agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 194703


Query: 5412   ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 5471
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194702 ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 194643


Query: 5472   aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgtaaag 5530
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194642 aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgtaaag 194584
```

Score = 351 bits (177), Expect = 6e-93
Identities = 177/177 (100%)
Strand = Plus / Minus

Query: 10061   caaatccatgccctgttccttttgtgattcccgagaatgctctgctgtctgaaaaggagt 10120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 150387   caaatccatgccctgttccttttgtgattcccgagaatgctctgctgtctgaaaaggagt 150328

Query: 10121   tttatgttgatcagaatgtgtccatcaaatgtagggaaggttttctgctgcagggccacg 10180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 150327   tttatgttgatcagaatgtgtccatcaaatgtagggaaggttttctgctgcagggccacg 150268

Query: 10181   gcatcattacctgcaaccccgacgagacgtggacacagacaagcgccaaatgtgaaa 10237
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 150267   gcatcattacctgcaaccccgacgagacgtggacacagacaagcgccaaatgtgaaa 150211

Score = 349 bits (176), Expect = 2e-92
Identities = 176/176 (100%)
Strand = Plus / Minus

Query: 9885   agagaccaggtgtgaaactccacttgaatttctcaatgggaaagctgacattgaaaacag 9944
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 151773   agagaccaggtgtgaaactccacttgaatttctcaatgggaaagctgacattgaaaacag 151714

Query: 9945   gacgactggacccaacgtggtatattcctgcaacagaggctacagtcttgaagggccatc 10004
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 151713   gacgactggacccaacgtggtatattcctgcaacagaggctacagtcttgaagggccatc 151654

Query: 10005   tgaggcacactgcacagaaaatggaacctggagccacccagtccctctctgcaaac 10060
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 151653   tgaggcacactgcacagaaaatggaacctggagccacccagtccctctctgcaaac 151598

Score = 339 bits (171), Expect = 2e-89
Identities = 171/171 (100%)
Strand = Plus / Minus

Query: 5805   cagcttacagggcccttccattattgaatgcacggcttctggcatctgggacagagcgcc 5864
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 192074   cagcttacagggcccttccattattgaatgcacggcttctggcatctgggacagagcgcc 192015

Query: 5865   acctgcctgtcacctcgtcttctgtggagaaccacctgccatcaaagatgctgtcattac 5924
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 192014   acctgcctgtcacctcgtcttctgtggagaaccacctgccatcaaagatgctgtcattac 191955

```
Query: 5925    ggggaataacttcactttcaggaacaccgtcacttacacttgcaaagaagg 5975
               |||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 191954 ggggaataacttcactttcaggaacaccgtcacttacacttgcaaagaagg 191904


 Score = 339 bits (171), Expect = 2e-89
 Identities = 171/171 (100%)
 Strand = Plus / Minus


Query: 10238   aaatctcatgtggtccaccagctcacgtagaaaatgcaattgctcgaggcgtacattatc 10297
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 143830  aaatctcatgtggtccaccagctcacgtagaaaatgcaattgctcgaggcgtacattatc 143771


Query: 10298   aatatggagacatgatcacctactcatgttacagtggatacatgttggagggtttcctga 10357
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 143770  aatatggagacatgatcacctactcatgttacagtggatacatgttggagggtttcctga 143711


Query: 10358   ggagtgtttgtttagaaaatggaacatggacatcacctcctatttgcagag 10408
               |||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 143710  ggagtgtttgtttagaaaatggaacatggacatcacctcctatttgcagag 143660


 Score = 315 bits (159), Expect = 3e-82
 Identities = 159/159 (100%)
 Strand = Plus / Minus


Query: 9665    agcttgatggaacctgggagccaccattctccgatgaatcttgcagtccagtttcttgtg 9724
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 165324  agcttgatggaacctgggagccaccattctccgatgaatcttgcagtccagtttcttgtg 165265


Query: 9725    ggaaacctgaaagtccagaacatggatttgtggttggcagtaaatacacctttgaaagca 9784
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 165264  ggaaacctgaaagtccagaacatggatttgtggttggcagtaaatacacctttgaaagca 165205


Query: 9785    caattatttatcagtgtgagcctggctatgaactagagg 9823
               |||||||||||||||||||||||||||||||||||||||
Sbjct: 165204  caattatttatcagtgtgagcctggctatgaactagagg 165166


 Score = 194 bits (98), Expect = 8e-46
 Identities = 98/98 (100%)
 Strand = Plus / Minus


Query: 10407   agctgtctgtcgatttccatgtcagaatgggggcatctgccaacgcccaaatgcttgttc 10466
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 141681  agctgtctgtcgatttccatgtcagaatgggggcatctgccaacgcccaaatgcttgttc 141622
```

```
Query: 10467   ctgtccagagggctggatggggcgcctctgtgaagaac 10504
               ||||||||||||||||||||||||||||||||||||||
Sbjct: 141621  ctgtccagagggctggatggggcgcctctgtgaagaac 141584


 Score =  194 bits (98), Expect = 8e-46
 Identities = 98/98 (100%)
 Strand = Plus / Minus


Query: 10598   cagctgtttgccagtctccctgcttaaatggtggaaaatgtgtaagaccaaaccgatgtc 10657
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 134332  cagctgtttgccagtctccctgcttaaatggtggaaaatgtgtaagaccaaaccgatgtc 134273


Query: 10658   actgtctttcttcttggacgggacataactgttccagg 10695
               ||||||||||||||||||||||||||||||||||||||
Sbjct: 134272  actgtctttcttcttggacgggacataactgttccagg 134235


 Score =  190 bits (96), Expect = 1e-44
 Identities = 96/96 (100%)
 Strand = Plus / Minus


Query: 10505   caatctgcattcttccctgtctgaacggaggtcgctgtgtggccccttaccagtgtgact 10564
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 139776  caatctgcattcttccctgtctgaacggaggtcgctgtgtggccccttaccagtgtgact 139717


Query: 10565   gcccgcctggctggacggggtctcgctgtcatacag 10600
               ||||||||||||||||||||||||||||||||||||
Sbjct: 139716  gcccgcctggctggacggggtctcgctgtcatacag 139681


 Score =  180 bits (91), Expect = 1e-41
 Identities = 94/95 (98%)
 Strand = Plus / Minus


Query: 5523    ttgtaaagctgtttcatgtggtaaaccggctattccagaaaatggttgcattgaggagtt 5582
               ||||  ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194323  ttgttaagctgtttcatgtggtaaaccggctattccagaaaatggttgcattgaggagtt 194264


Query: 5583    agcatttacttttggcagcaaagtgacatataggt 5617
               |||||||||||||||||||||||||||||||||||
Sbjct: 194263  agcatttacttttggcagcaaagtgacatataggt 194229
```

Score = 131 bits (66), Expect = 1e-26
Identities = 66/66 (100%)
Strand = Plus / Minus

Query: 9821   aggggaacagggaacgtgtctgccaggagaacagacagtggagtggaggggtggcaatat 9880
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 153902   aggggaacagggaacgtgtctgccaggagaacagacagtggagtggaggggtggcaatat 153843

Query: 9881   gcaaag 9886
                ||||||
Sbjct: 153842   gcaaag 153837

Score = 56.0 bits (28), Expect = 5e-04
Identities = 28/28 (100%)
Strand = Plus / Minus

Query: 10689   ttccaggaaaaggaggactgggtttttaa 10716
                ||||||||||||||||||||||||||||
Sbjct: 130879   ttccaggaaaaggaggactgggtttttaa 130852

>AL592463.10.1.96779
         Length = 96779

 Score = 1053 bits (531), Expect = 0.0
 Identities = 531/531 (100%)
 Strand = Plus / Minus

Query: 1   atgtggcctcgcctggccttttgttgctggggtctggcgctcgtttcgggctgggcgacc 60
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33941   atgtggcctcgcctggccttttgttgctggggtctggcgctcgtttcgggctgggcgacc 33882

Query: 61   tttcagcagatgtccccgtcgcgcaatttcagcttccgcctcttccccgagaccgcgccc 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33881   tttcagcagatgtccccgtcgcgcaatttcagcttccgcctcttccccgagaccgcgccc 33822

Query: 121   ggggccccgggagtatccccgcgccgcccgctcctggcgacgaagcggcggggagcaga 180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33821   ggggccccgggagtatccccgcgccgcccgctcctggcgacgaagcggcggggagcaga 33762

Query: 181   gtggagcggctgggccaggcgttccggcgacgcgtgcggctgctgcgggagctcagcgag 240
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33761   gtggagcggctgggccaggcgttccggcgacgcgtgcggctgctgcgggagctcagcgag 33702

```
Query: 241    cgcctggagcttgtcttcctggtggatgattcgtccagcgtgggcgaagtcaacttccgc 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33701  cgcctggagcttgtcttcctggtggatgattcgtccagcgtgggcgaagtcaacttccgc 33642


Query: 301    agcgagctcatgttcgtccgcaagctgctgtccgacttccccgtggtgcccacggccacg 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33641  agcgagctcatgttcgtccgcaagctgctgtccgacttccccgtggtgcccacggccacg 33582


Query: 361    cgcgtggccatcgtgaccttctcgtccaagaactacgtggtgccgcgcgtcgattacatc 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33581  cgcgtggccatcgtgaccttctcgtccaagaactacgtggtgccgcgcgtcgattacatc 33522


Query: 421    tccacccgccgcgcgcgccagcacaagtgcgcgctgctcctccaagagatccctgccatc 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33521  tccacccgccgcgcgcgccagcacaagtgcgcgctgctcctccaagagatccctgccatc 33462


Query: 481    tcctaccgaggtggcggcacctacaccaagggcgccttccagcaagccgcg 531
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33461  tcctaccgaggtggcggcacctacaccaagggcgccttccagcaagccgcg 33411



 Score =  509 bits (257), Expect = e-140
 Identities = 257/257 (100%)
 Strand = Plus / Minus


Query: 531    gcaaattcttcttcatgctagagaaaactcaacaaaagttgtatttctcatcactgatgg 590
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4503   gcaaattcttcttcatgctagagaaaactcaacaaaagttgtatttctcatcactgatgg 4444


Query: 591    atattccaatggggggagaccctagaccaattgcagcgtcactgcgagattcaggagtgga 650
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4443   atattccaatgggggagaccctagaccaattgcagcgtcactgcgagattcaggagtgga 4384


Query: 651    gatcttcacttttggcatatggcaagggaacattcgagagctgaatgacatggcttccac 710
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4383   gatcttcacttttggcatatggcaagggaacattcgagagctgaatgacatggcttccac 4324


Query: 711    cccaaaggaggagcactgttacctgctacacagttttgaagaatttgaggctttagctcg 770
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4323   cccaaaggaggagcactgttacctgctacacagttttgaagaatttgaggctttagctcg 4264


Query: 771    ccgggcattgcatgaag 787
              |||||||||||||||||
Sbjct: 4263   ccgggcattgcatgaag 4247
```

Score = 355 bits (179), Expect = 4e-94
Identities = 179/179 (100%)
Strand = Plus / Minus

Query: 786   agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 845
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 691   agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 632

Query: 846   tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 905
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 631   tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 572

Query: 906   ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 964
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 571   ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 513

>AL354982.12.1.119077
        Length = 119077

 Score = 470 bits (237), Expect = e-129
 Identities = 237/237 (100%)
 Strand = Plus / Minus

Query: 2762   cagctagtgtgccattacccgatgaaagaaatgatacccttgaatgggaaaatcagcaac 2821
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43075 cagctagtgtgccattacccgatgaaagaaatgatacccttgaatgggaaaatcagcaac 43016

Query: 2822   gactccttcagacattggaaactatcacaaataaactgaaaaggactctcaacaaagacc 2881
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43015 gactccttcagacattggaaactatcacaaataaactgaaaaggactctcaacaaagacc 42956

Query: 2882   ccatgtattcctttcagcttgcatcagaaatacttatagccgacagcaattcattagaaa 2941
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 42955 ccatgtattcctttcagcttgcatcagaaatacttatagccgacagcaattcattagaaa 42896

Query: 2942   caaaaaaggcttccccccttctgcagaccaggctcagtgctgagagggcgtatgtgtg 2998
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 42895 caaaaaaggcttccccccttctgcagaccaggctcagtgctgagagggcgtatgtgtg 42839

```
Score =  406 bits (205), Expect = e-109
Identities = 205/205 (100%)
Strand = Plus / Minus


Query: 4259   cagaacagtctacaggctttaacctggattttgaagtttctggcatctatggatatgtca 4318
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17516  cagaacagtctacaggctttaacctggattttgaagtttctggcatctatggatatgtca 17457


Query: 4319   tgctagatggcatgctcccatctctccatgctctaacctgtaccttctggatgaaatcct 4378
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17456  tgctagatggcatgctcccatctctccatgctctaacctgtaccttctggatgaaatcct 17397


Query: 4379   ctgacgacatgaactatggaacaccaatctcctatgcagttgataacggcagcgacaata 4438
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17396  ctgacgacatgaactatggaacaccaatctcctatgcagttgataacggcagcgacaata 17337


Query: 4439   ccttgctcctgactgattataacgg 4463
              |||||||||||||||||||||||||
Sbjct: 17336  ccttgctcctgactgattataacgg 17312



 Score =  404 bits (204), Expect = e-109
 Identities = 204/204 (100%)
 Strand = Plus / Minus


Query: 3900   aggcctgcattgtgaaacagaagtcaatgaatgccagtcaaacccatgcttaaataatgc 3959
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21737  aggcctgcattgtgaaacagaagtcaatgaatgccagtcaaacccatgcttaaataatgc 21678


Query: 3960   agtctgtgaagaccaggttgggggattcttgtgcaaatgcccacctggattttttgggtac 4019
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21677  agtctgtgaagaccaggttgggggattcttgtgcaaatgcccacctggattttttgggtac 21618


Query: 4020   ccgatgtggaaagaacgtcgatgagtgtctcagtcagccatgcaaaaatggagctacctg 4079
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21617  ccgatgtggaaagaacgtcgatgagtgtctcagtcagccatgcaaaaatggagctacctg 21558


Query: 4080   taaagacggtgccaatagcttcag 4103
              ||||||||||||||||||||||||
Sbjct: 21557  taaagacggtgccaatagcttcag 21534
```

```
Score =  394 bits (199), Expect = e-106
Identities = 199/199 (100%)
Strand = Plus / Minus


Query: 1483   gagcgccactgttccacctttcagatgcccaaagatgtcatcatatcccccacaactgt 1542
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70714  gagcgccactgttccacctttcagatgcccaaagatgtcatcatatcccccacaactgt 70655


Query: 1543   ggcaagcagccagccaaatttgggacgatctgctatgtaagttgccgccaagggttcatt 1602
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70654  ggcaagcagccagccaaatttgggacgatctgctatgtaagttgccgccaagggttcatt 70595


Query: 1603   ttatctggagtcaaagaaatgctgagatgtaccacttctggaaaatggaatgtcggagtt 1662
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70594  ttatctggagtcaaagaaatgctgagatgtaccacttctggaaaatggaatgtcggagtt 70535


Query: 1663   caggcagctgtgtgtaaag 1681
              |||||||||||||||||||
Sbjct: 70534  caggcagctgtgtgtaaag 70516



Score =  391 bits (197), Expect = e-105
Identities = 197/197 (100%)
Strand = Plus / Minus


Query: 2169   aggttctccctgtgaaattccattcacacctgtaaatggggatttttatatgcactccaga 2228
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52913  aggttctccctgtgaaattccattcacacctgtaaatggggatttttatatgcactccaga 52854


Query: 2229   taatactggagtcaactgtacattaacttgcttggagggctatgatttcacagaagggtc 2288
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52853  taatactggagtcaactgtacattaacttgcttggagggctatgatttcacagaagggtc 52794


Query: 2289   tactgacaagtattattgtgcttatgaagatggcgtctggaaaccaacatataccactga 2348
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52793  tactgacaagtattattgtgcttatgaagatggcgtctggaaaccaacatataccactga 52734


Query: 2349   atggccagactgtgcca 2365
              |||||||||||||||||
Sbjct: 52733  atggccagactgtgcca 52717
```

```
Score =  387 bits (195), Expect = e-103
Identities = 195/195 (100%)
Strand = Plus / Minus


Query: 5613  taggtgtaataaaggatatactctggccggtgataaagaatcatcctgtcttgctaacag 5672
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 812   taggtgtaataaaggatatactctggccggtgataaagaatcatcctgtcttgctaacag 753


Query: 5673  ttcttggagtcattcccctcctgtgtgtgaaccagtgaagtgttctagtccggaaaatat 5732
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 752   ttcttggagtcattcccctcctgtgtgtgaaccagtgaagtgttctagtccggaaaatat 693


Query: 5733  aaataatggaaaatatattttgagtgggcttacctacctttctactgcatcatattcatg 5792
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 692   aaataatggaaaatatattttgagtgggcttacctacctttctactgcatcatattcatg 633


Query: 5793  cgatacaggatacag 5807
             |||||||||||||||
Sbjct: 632   cgatacaggatacag 618




Score =  361 bits (182), Expect = 6e-96
Identities = 182/182 (100%)
Strand = Plus / Minus


Query: 1302   agtaagaacatgtcctcatctccgccagccgaaacatggccacatcagctgttctacaag 1361
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74694  agtaagaacatgtcctcatctccgccagccgaaacatggccacatcagctgttctacaag 74635


Query: 1362   ggaaatgttatataagacaacatgtttggttgcctgtgatgaagggtacagactagaagg 1421
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74634  ggaaatgttatataagacaacatgtttggttgcctgtgatgaagggtacagactagaagg 74575


Query: 1422   cagtgataagcttacttgtcaaggaaacagccagtgggatgggccagaaccccggtgtgt 1481
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74574  cagtgataagcttacttgtcaaggaaacagccagtgggatgggccagaaccccggtgtgt 74515


Query: 1482   gg 1483
              ||
Sbjct: 74514  gg 74513
```

```
Score =  357 bits (180), Expect = 9e-95
Identities = 180/180 (100%)
Strand = Plus / Minus


Query: 1124    ttgtccactgccctgccctgaagcctcccgaaaatggttactttatccaaaacacttgca 1183
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84580   ttgtccactgccctgccctgaagcctcccgaaaatggttactttatccaaaacacttgca 84521


Query: 1184    acaaccacttcaatgcagcctgtggggtccgatgtcaccctggatttgatcttgtgggaa 1243
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84520   acaaccacttcaatgcagcctgtggggtccgatgtcaccctggatttgatcttgtgggaa 84461


Query: 1244    gcagcatcatcttatgtctacccaatggtttgtggtccggttcagagagctactgcagag 1303
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84460   gcagcatcatcttatgtctacccaatggtttgtggtccggttcagagagctactgcagag 84401



 Score =  355 bits (179), Expect = 4e-94
 Identities = 179/179 (100%)
 Strand = Plus / Minus


Query: 786     agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 845
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117768  agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 117709


Query: 846     tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 905
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117708  tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 117649


Query: 906     ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 964
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117648  ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 117590



 Score =  355 bits (179), Expect = 4e-94
 Identities = 179/179 (100%)
 Strand = Plus / Minus


Query: 4463    gctgggttctttatgtgaatggcagggaaaagataacaaactgtccctcggtgaatgatg 4522
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15196   gctgggttctttatgtgaatggcagggaaaagataacaaactgtccctcggtgaatgatg 15137


Query: 4523    gcagatggcatcatattgcaatcacttggacaagtgccaatggcatctggaaagtctata 4582
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15136   gcagatggcatcatattgcaatcacttggacaagtgccaatggcatctggaaagtctata 15077
```

```
Query: 4583  tcgatgggaaattatctgacggtggtgctggcctctctgttggtttgcccatacctggt 4641
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15076 tcgatgggaaattatctgacggtggtgctggcctctctgttggtttgcccatacctggt 15018



   Score =  347 bits (175), Expect = 9e-92
   Identities = 178/179 (99%)
   Strand = Plus / Minus


Query: 5352 agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 5411
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1927 agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 1868


Query: 5412 ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 5471
             |||||||||||||||| |||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1867 ttatacagtaggtgccgaagtcacattttcgtgtcaggaaggataccagttgatgggagt 1808


Query: 5472 aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgtaaag 5530
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1807 aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgtaaag 1749



   Score =  345 bits (174), Expect = 4e-91
   Identities = 174/174 (100%)
   Strand = Plus / Minus


Query: 5060 gcattagctgtggggtgccacctcctttggagaatggcttccattcagccgatgacttct 5119
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4110 gcattagctgtggggtgccacctcctttggagaatggcttccattcagccgatgacttct 4051


Query: 5120 atgctggcagcacagtaacctaccagtgcaacaatggctactatctattgggtgactcaa 5179
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4050 atgctggcagcacagtaacctaccagtgcaacaatggctactatctattgggtgactcaa 3991


Query: 5180 ggatgttctgtacagataatgggagctggaacggcgtttcaccatcctgccttg 5233
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3990 ggatgttctgtacagataatgggagctggaacggcgtttcaccatcctgccttg 3937



   Score =  343 bits (173), Expect = 1e-90
   Identities = 173/173 (100%)
   Strand = Plus / Minus


Query: 4888 gattgcccacgcttaggagggtcagtgcctcatctgagaactgcatctgaagatttaaag 4947
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5982 gattgcccacgcttaggagggtcagtgcctcatctgagaactgcatctgaagatttaaag 5923
```

```
Query: 4948  ccaggttccaaagtcaatctgttctgtgatccaggcttccagctggtcgggaaccctgtg 5007
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5922  ccaggttccaaagtcaatctgttctgtgatccaggcttccagctggtcgggaaccctgtg 5863


Query: 5008  cagtactgtctgaatcaaggacagtggacacaaccacttcctcactgtgaacg 5060
             |||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5862  cagtactgtctgaatcaaggacagtggacacaaccacttcctcactgtgaacg 5810



 Score =  329 bits (166), Expect = 2e-86
 Identities = 166/166 (100%)
 Strand = Plus / Minus


Query: 2599   ggaccaggtggctgggggtgcagctaataggctggattactcttacgatgacttcctggac 2658
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43799  ggaccaggtggctgggggtgcagctaataggctggattactcttacgatgacttcctggac 43740


Query: 2659   actgtgcaagaaacagccacaagcatcggcaatgccaagtcctcacggattaaaagaagt 2718
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43739  actgtgcaagaaacagccacaagcatcggcaatgccaagtcctcacggattaaaagaagt 43680


Query: 2719   gccccattatctgactataaaattaagttaattttaacatcacag 2764
              ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43679  gccccattatctgactataaaattaagttaattttaacatcacag 43634



 Score =  329 bits (166), Expect = 2e-86
 Identities = 166/166 (100%)
 Strand = Plus / Minus


Query: 3321   agttccttgtccagaaggaaaattctcgcgttctgggttaatgccctgtcacccatgtcc 3380
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30590  agttccttgtccagaaggaaaattctcgcgttctgggttaatgccctgtcacccatgtcc 30531


Query: 3381   tcgtgactattaccaacctaatgcagggaaggccttctgcctggcctgtccctttatgg 3440
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30530  tcgtgactattaccaacctaatgcagggaaggccttctgcctggcctgtccctttatgg 30471


Query: 3441   aactaccccattcgctggttccagatccatcacagaatgttcaagt 3486
              ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30470  aactaccccattcgctggttccagatccatcacagaatgttcaagt 30425
```

```
Score =  325 bits (164), Expect = 3e-85
Identities = 164/164 (100%)
Strand = Plus / Minus


Query: 3159   agctcagtgtaaacaaggcacctactcatacagtggacttgagacttgtgaatcgtgtcc 3218
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37503  agctcagtgtaaacaaggcacctactcatacagtggacttgagacttgtgaatcgtgtcc 37444


Query: 3219   actgggcacttatcagccaaaatttggttcccggagctgcctctcgtgtccagaaaacac 3278
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37443  actgggcacttatcagccaaaatttggttcccggagctgcctctcgtgtccagaaaacac 37384


Query: 3279   ctcaactgtgaaaagaggagccgtgaacatttctgcatgtggag 3322
              ||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37383  ctcaactgtgaaaagaggagccgtgaacatttctgcatgtggag 37340



Score =  325 bits (164), Expect = 3e-85
Identities = 164/164 (100%)
Strand = Plus / Minus


Query: 960    cacagcttgcccatcggggacatacaaacctgaaggctcaccaggaggaatcagcagttg 1019
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85586  cacagcttgcccatcggggacatacaaacctgaaggctcaccaggaggaatcagcagttg 85527


Query: 1020   cattccatgtcctgatgaaaatcacacctctccacctggaagcacatcccctgaagactg 1079
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85526  cattccatgtcctgatgaaaatcacacctctccacctggaagcacatcccctgaagactg 85467


Query: 1080   tgtctgcagagagggatacagggcatctggccagacctgtgaac 1123
              ||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85466  tgtctgcagagagggatacagggcatctggccagacctgtgaac 85423



Score =  323 bits (163), Expect = 1e-84
Identities = 163/163 (100%)
Strand = Plus / Minus


Query: 2998   gtcaattgccctttgggaacctattataatctggaacatttcacctgtgaaagctgccgg 3057
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40577  gtcaattgccctttgggaacctattataatctggaacatttcacctgtgaaagctgccgg 40518


Query: 3058   atcggatcctatcaagatgaagaagggcaacttgagtgcaagctttgcccctctgggatg 3117
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40517  atcggatcctatcaagatgaagaagggcaacttgagtgcaagctttgcccctctgggatg 40458
```

```
Query: 3118  tacacggaatatatccattcaagaaacatctctgattgtaaag 3160
              |||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40457 tacacggaatatatccattcaagaaacatctctgattgtaaag 40415
```

```
 Score =  315 bits (159), Expect = 3e-82
 Identities = 162/163 (99%)
 Strand = Plus / Minus
```

```
Query: 4099  ttcagatgcctgtgtgcagctggcttcacaggatcacactgtgaattgaacatcaatgaa 4158
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 18537 ttcagatgcctgtgtgcagctggcttcacaggatcacactgtgaattgaacatcaatgaa 18478
```

```
Query: 4159  tgtcagtctaatccatgtagaaatcaggccacctgtgtggatgaattaaattcatacagt 4218
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 18477 tgtcagtctaatccatgtagaaatcaggccacctgtgtggatgaattaaattcatacagt 18418
```

```
Query: 4219  tgtaaatgtcagccaggatttttcaggccaaaggtgtgaaacag 4261
              ||||||||||||||||||||||||||| ||||||||||||||||
Sbjct: 18417 tgtaaatgtcagccaggatttttcaggcaaaaggtgtgaaacag 18375
```

```
 Score =  272 bits (137), Expect = 4e-69
 Identities = 137/137 (100%)
 Strand = Plus / Minus
```

```
Query: 2036  caggggctgaattggtcattaccagaagtcatacacaaggagaccttttccctcaagggg 2095
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 53970 caggggctgaattggtcattaccagaagtcatacacaaggagaccttttccctcaagggg 53911
```

```
Query: 2096  agactatagtacagtatacagccactgacccctcaggcaataacaggacatgtgatatcc 2155
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 53910 agactatagtacagtatacagccactgacccctcaggcaataacaggacatgtgatatcc 53851
```

```
Query: 2156  atattgtcataaaaggt 2172
              |||||||||||||||||
Sbjct: 53850 atattgtcataaaaggt 53834
```

```
 Score =  262 bits (132), Expect = 4e-66
 Identities = 132/132 (100%)
 Strand = Plus / Minus
```

```
Query: 1799  aggtgtcagtccacgttcatccagctttcaccccaccttaccttttcccaattggagatg 1858
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 61256 aggtgtcagtccacgttcatccagctttcaccccaccttaccttttcccaattggagatg 61197
```

```
Query:  1859  ttgctatcgtatacacggcaactgacctatccggcaaccaggccagctgcattttccata  1918
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 61196  ttgctatcgtatacacggcaactgacctatccggcaaccaggccagctgcattttccata  61137


Query:  1919  tcaaggttattg  1930
              ||||||||||||
Sbjct: 61136  tcaaggttattg  61125



 Score =  254 bits (128), Expect = 1e-63
 Identities = 128/128 (100%)
 Strand = Plus / Minus


Query:  4639  ggtggtggtgcgttagttctggggcaagagcaagacaaaaaaggagagggattcagccca  4698
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  7980  ggtggtggtgcgttagttctggggcaagagcaagacaaaaaaggagagggattcagccca  7921


Query:  4699  gctgagtcttttgtgggctccataagccagctcaacctctgggactatgtcctgtctcca  4758
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  7920  gctgagtcttttgtgggctccataagccagctcaacctctgggactatgtcctgtctcca  7861


Query:  4759  cagcaggt  4766
              ||||||||
Sbjct:  7860  cagcaggt  7853



 Score =  252 bits (127), Expect = 4e-63
 Identities = 127/127 (100%)
 Strand = Plus / Minus


Query:  4762  caggtgaagtcactggctacctcctgcccagaggaactcagtaaaggaaacgtgttagca  4821
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  6842  caggtgaagtcactggctacctcctgcccagaggaactcagtaaaggaaacgtgttagca  6783


Query:  4822  tggcctgatttcttgtcaggaattgtggggaaagtgaagatcgattctaagagcatattt  4881
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct:  6782  tggcctgatttcttgtcaggaattgtggggaaagtgaagatcgattctaagagcatattt  6723


Query:  4882  tgttctg  4888
              |||||||
Sbjct:  6722  tgttctg  6716
```

Score = 246 bits (124), Expect = 2e-61
Identities = 124/124 (100%)
Strand = Plus / Minus

Query: 2366   aaaaacgttttgcaaaccacgggttcaagtcctttgagatgttctacaaagcagctcgtt 2425
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 51231 aaaaacgttttgcaaaccacgggttcaagtcctttgagatgttctacaaagcagctcgtt 51172

Query: 2426   gtgatgacacagatctgatgaagaagttttctgaagcatttgagacgaccctgggaaaaa 2485
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 51171 gtgatgacacagatctgatgaagaagttttctgaagcatttgagacgaccctgggaaaaa 51112

Query: 2486   tggt 2489
              ||||
Sbjct: 51111 tggt 51108

Score = 244 bits (123), Expect = 1e-60
Identities = 123/123 (100%)
Strand = Plus / Minus

Query: 1680   agacgtggaggctcctcaaatcaactgtcctaaggacatagaggctaagactctggaaca 1739
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 68410 agacgtggaggctcctcaaatcaactgtcctaaggacatagaggctaagactctggaaca 68351

Query: 1740   gcaagattctgccaatgttacctggcagattccaacagctaaagacaactctggtgaaaa 1799
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 68350 gcaagattctgccaatgttacctggcagattccaacagctaaagacaactctggtgaaaa 68291

Query: 1800   ggt 1802
              |||
Sbjct: 68290 ggt 68288

Score = 240 bits (121), Expect = 2e-59
Identities = 121/121 (100%)
Strand = Plus / Minus

Query: 5233   gatgtcgatgagtgtgcagttggatcagattgtagtgagcatgcttcttgcctgaacgta 5292
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3510   gatgtcgatgagtgtgcagttggatcagattgtagtgagcatgcttcttgcctgaacgta 3451

Query: 5293   gatggatcctacatatgttcatgtgtcccaccgtacacaggagatgggaaaaactgtgca 5352
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3450   gatggatcctacatatgttcatgtgtcccaccgtacacaggagatgggaaaaactgtgca 3391

Query: 5353 g 5353
            |
Sbjct: 3390 g 3390

 Score = 234 bits (118), Expect = 9e-58
 Identities = 118/118 (100%)
 Strand = Plus / Minus

Query: 3672   aggcttaaagtgtgaaacagacatcgatgagtgcagcccactgccttgcctcaacaatgg 3731
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 27180 aggcttaaagtgtgaaacagacatcgatgagtgcagcccactgccttgcctcaacaatgg 27121

Query: 3732   agtttgtaaagacctagttggggaattcatttgtgagtgcccatcaggttacacaggt 3789
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 27120 agtttgtaaagacctagttggggaattcatttgtgagtgcccatcaggttacacaggt 27063

 Score = 234 bits (118), Expect = 9e-58
 Identities = 118/118 (100%)
 Strand = Plus / Minus

Query: 3785   caggtcagcggtgtgaagaaaatataaatgagtgtagctccagtccttgtttaaataaag 3844
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 22880 caggtcagcggtgtgaagaaaatataaatgagtgtagctccagtccttgtttaaataaag 22821

Query: 3845   gaatctgtgttgatggtgtggctggctatcgttgcacatgtgtgaaaggatttgtagg 3902
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 22820 gaatctgtgttgatggtgtggctggctatcgttgcacatgtgtgaaaggatttgtagg 22763

 Score = 226 bits (114), Expect = 2e-55
 Identities = 114/114 (100%)
 Strand = Plus / Minus

Query: 2487   ggtcccatcattttgtagtgatgcagaggacattgactgcagactggaggagaacctgac 2546
              ||||||·|||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 47791 ggtcccatcattttgtagtgatgcagaggacattgactgcagactggaggagaacctgac 47732

Query: 2547   caaaaaatattgcctagaatataattatgactatgaaaatggctttgcaattgg 2600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 47731 caaaaaatattgcctagaatataattatgactatgaaaatggctttgcaattgg 47678

Score = 218 bits (110), Expect = 6e-53
Identities = 110/110 (100%)
Strand = Plus / Minus

Query: 1930 gatgcagaaccacctgtcatagactggtgcagatctccacctcccgtccaggtctcggag 1989
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 55169 gatgcagaaccacctgtcatagactggtgcagatctccacctcccgtccaggtctcggag 55110

Query: 1990 aaggtacatgccgcaagctgggatgagcctcagttctcagacaactcagg 2039
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 55109 aaggtacatgccgcaagctgggatgagcctcagttctcagacaactcagg 55060

Score = 198 bits (100), Expect = 5e-47
Identities = 100/100 (100%)
Strand = Plus / Minus

Query: 3575 aggttttccatgaatgcttctttaacccttgccacaatagtggaacctgccagcaacttg 3634
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 28829 aggttttccatgaatgcttctttaacccttgccacaatagtggaacctgccagcaacttg 28770

Query: 3635 ggcgtggttatgtttgtctctgtccacttggatatacagg 3674
              ||||||||||||||||||||||||||||||||||||||||
Sbjct: 28769 ggcgtggttatgtttgtctctgtccacttggatatacagg 28730

Score = 184 bits (93), Expect = 8e-43
Identities = 93/93 (100%)
Strand = Plus / Minus

Query: 3485 gttttagttcaactttctcagcggcagaggaaagtgtggtgccccctgcctctcttggac 3544
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30037 gttttagttcaactttctcagcggcagaggaaagtgtggtgccccctgcctctcttggac 29978

Query: 3545 atattaaaaagaggcatgaaatcagcagtcagg 3577
              |||||||||||||||||||||||||||||||||
Sbjct: 29977 atattaaaaagaggcatgaaatcagcagtcagg 29945

Score = 180 bits (91), Expect = 1e-41
Identities = 94/95 (98%)
Strand = Plus / Minus

Query: 5523 ttgtaaagctgtttcatgtggtaaaccggctattccagaaaatggttgcattgaggagtt 5582
              |||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1487 ttgttaagctgtttcatgtggtaaaccggctattccagaaaatggttgcattgaggagtt 1428

```
Query:  5583  agcatttacttttggcagcaaagtgacatataggt  5617
              |||||||||||||||||||||||||||||||||||
Sbjct:  1427  agcatttacttttggcagcaaagtgacatataggt  1393
```

Query= SEQ ID NO:5
          (5529 letters)

| | Score | E |
| Sequences producing significant alignments: | (bits) | Value |

AL592463.10.1.96779   1053   0.0
AL354982.12.1.119077   470   e-129
AL158158.14.1.194835   347   5e-92

>AL592463.10.1.96779
          Length = 96779

 Score = 1053 bits (531), Expect = 0.0
 Identities = 531/531 (100%)
 Strand = Plus / Minus

Query: 1   atgtggcctcgcctggccttttgttgctggggtctggcgctcgtttcgggctgggcgacc 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33941 atgtggcctcgcctggccttttgttgctggggtctggcgctcgtttcgggctgggcgacc 33882

Query: 61   tttcagcagatgtccccgtcgcgcaatttcagcttccgcctcttccccgagaccgcgccc 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33881 tttcagcagatgtccccgtcgcgcaatttcagcttccgcctcttccccgagaccgcgccc 33822

Query: 121   ggggcccccgggagtatccccgcgccgcccgctcctggcgacgaagcggcggggagcaga 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33821 ggggcccccgggagtatccccgcgccgcccgctcctggcgacgaagcggcggggagcaga 33762

Query: 181   gtggagcggctgggccaggcgttccggcgacgcgtgcggctgctgcgggagctcagcgag 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33761 gtggagcggctgggccaggcgttccggcgacgcgtgcggctgctgcgggagctcagcgag 33702

Query: 241   cgcctggagcttgtcttcctggtggatgattcgtccagcgtgggcgaagtcaacttccgc 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33701 cgcctggagcttgtcttcctggtggatgattcgtccagcgtgggcgaagtcaacttccgc 33642

Query: 301   agcgagctcatgttcgtccgcaagctgctgtccgacttccccgtggtgcccacggccacg 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33641 agcgagctcatgttcgtccgcaagctgctgtccgacttccccgtggtgcccacggccacg 33582

Query: 361   cgcgtggccatcgtgaccttctcgtccaagaactacgtggtgccgcgcgtcgattacatc 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33581 cgcgtggccatcgtgaccttctcgtccaagaactacgtggtgccgcgcgtcgattacatc 33522

Query: 421   tccacccgccgcgcgcgccagcacaagtgcgcgctgctcctccaagagatccctgccatc 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33521 tccacccgccgcgcgcgccagcacaagtgcgcgctgctcctccaagagatccctgccatc 33462

```
Query: 481    tcctaccgaggtggcggcacctacaccaagggcgccttccagcaagccgcg 531
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 33461  tcctaccgaggtggcggcacctacaccaagggcgccttccagcaagccgcg 33411


 Score =  509 bits (257), Expect = e-141
 Identities = 257/257 (100%)
 Strand = Plus / Minus


Query: 531    gcaaattcttcttcatgctagagaaaactcaacaaaagttgtatttctcatcactgatgg 590
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4503   gcaaattcttcttcatgctagagaaaactcaacaaaagttgtatttctcatcactgatgg 4444


Query: 591    atattccaatggggggagaccctagaccaattgcagcgtcactgcgagattcaggagtgga 650
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4443   atattccaatggggggagaccctagaccaattgcagcgtcactgcgagattcaggagtgga 4384


Query: 651    gatcttcacttttggcatatggcaagggaacattcgagagctgaatgacatggcttccac 710
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4383   gatcttcacttttggcatatggcaagggaacattcgagagctgaatgacatggcttccac 4324


Query: 711    cccaaaggaggagcactgttacctgctacacagttttgaagaatttgaggctttagctcg 770
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4323   cccaaaggaggagcactgttacctgctacacagttttgaagaatttgaggctttagctcg 4264


Query: 771    ccgggcattgcatgaag 787
              |||||||||||||||||
Sbjct: 4263   ccgggcattgcatgaag 4247


 Score =  355 bits (179), Expect = 2e-94
 Identities = 179/179 (100%)
 Strand = Plus / Minus


Query: 786    agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 845
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 691    agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 632


Query: 846    tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 905
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 631    tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 572


Query: 906    ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 964
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 571    ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 513
```

>AL354982.12.1.119077
        Length = 119077

 Score = 470 bits (237), Expect = e-129
 Identities = 237/237 (100%)
 Strand = Plus / Minus

Query: 2762 cagctagtgtgccattacccgatgaaagaaatgatacccttgaatgggaaaatcagcaac 2821
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43075 cagctagtgtgccattacccgatgaaagaaatgatacccttgaatgggaaaatcagcaac 43016

Query: 2822 gactccttcagacattggaaactatcacaaataaactgaaaaggactctcaacaaagacc 2881
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43015 gactccttcagacattggaaactatcacaaataaactgaaaaggactctcaacaaagacc 42956

Query: 2882 ccatgtattcctttcagcttgcatcagaaatacttatagccgacagcaattcattagaaa 2941
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 42955 ccatgtattcctttcagcttgcatcagaaatacttatagccgacagcaattcattagaaa 42896

Query: 2942 caaaaaaggcttccccccttctgcagaccaggctcagtgctgagagggcgtatgtgtg 2998
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 42895 caaaaaaggcttccccccttctgcagaccaggctcagtgctgagagggcgtatgtgtg 42839

 Score = 406 bits (205), Expect = e-110
 Identities = 205/205 (100%)
 Strand = Plus / Minus

Query: 4259 cagaacagtctacaggctttaacctggattttgaagtttctggcatctatggatatgtca 4318
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17516 cagaacagtctacaggctttaacctggattttgaagtttctggcatctatggatatgtca 17457

Query: 4319 tgctagatggcatgctcccatctctccatgctctaacctgtaccttctggatgaaatcct 4378
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17456 tgctagatggcatgctcccatctctccatgctctaacctgtaccttctggatgaaatcct 17397

Query: 4379 ctgacgacatgaactatggaacaccaatctcctatgcagttgataacggcagcgacaata 4438
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 17396 ctgacgacatgaactatggaacaccaatctcctatgcagttgataacggcagcgacaata 17337

Query: 4439 ccttgctcctgactgattataacgg 4463
             |||||||||||||||||||||||||
Sbjct: 17336 ccttgctcctgactgattataacgg 17312

Score = 404 bits (204), Expect = e-109
Identities = 204/204 (100%)
Strand = Plus / Minus

Query: 3900   aggcctgcattgtgaaacagaagtcaatgaatgccagtcaaacccatgcttaaataatgc 3959
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21737   aggcctgcattgtgaaacagaagtcaatgaatgccagtcaaacccatgcttaaataatgc 21678

Query: 3960   agtctgtgaagaccaggttgggggattcttgtgcaaatgcccacctggattttttgggtac 4019
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21677   agtctgtgaagaccaggttgggggattcttgtgcaaatgcccacctggattttttgggtac 21618

Query: 4020   ccgatgtggaaagaacgtcgatgagtgtctcagtcagccatgcaaaaatggagctacctg 4079
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 21617   ccgatgtggaaagaacgtcgatgagtgtctcagtcagccatgcaaaaatggagctacctg 21558

Query: 4080   taaagacggtgccaatagcttcag 4103
               ||||||||||||||||||||||||
Sbjct: 21557   taaagacggtgccaatagcttcag 21534

Score = 394 bits (199), Expect = e-106
Identities = 199/199 (100%)
Strand = Plus / Minus

Query: 1483   gagcgccactgttccacctttcagatgcccaaagatgtcatcatatcccccacaactgt 1542
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70714   gagcgccactgttccacctttcagatgcccaaagatgtcatcatatcccccacaactgt 70655

Query: 1543   ggcaagcagccagccaaatttgggacgatctgctatgtaagttgccgccaagggttcatt 1602
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70654   ggcaagcagccagccaaatttgggacgatctgctatgtaagttgccgccaagggttcatt 70595

Query: 1603   ttatctggagtcaaagaaatgctgagatgtaccacttctggaaaatggaatgtcggagtt 1662
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 70594   ttatctggagtcaaagaaatgctgagatgtaccacttctggaaaatggaatgtcggagtt 70535

Query: 1663   caggcagctgtgtgtaaag 1681
               |||||||||||||||||||
Sbjct: 70534   caggcagctgtgtgtaaag 70516

Score = 391 bits (197), Expect = e-105
Identities = 197/197 (100%)
Strand = Plus / Minus

Query: 2169   aggttctccctgtgaaattccattcacacctgtaaatggggatttttatatgcactccaga 2228
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52913 aggttctccctgtgaaattccattcacacctgtaaatggggatttttatatgcactccaga 52854

Query: 2229   taatactggagtcaactgtacattaacttgcttggagggctatgatttcacagaagggtc 2288
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52853 taatactggagtcaactgtacattaacttgcttggagggctatgatttcacagaagggtc 52794

Query: 2289   tactgacaagtattattgtgcttatgaagatggcgtctggaaaccaacatataccactga 2348
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 52793 tactgacaagtattattgtgcttatgaagatggcgtctggaaaccaacatataccactga 52734

Query: 2349   atggccagactgtgcca 2365
              |||||||||||||||||
Sbjct: 52733 atggccagactgtgcca 52717

Score = 361 bits (182), Expect = 3e-96
Identities = 182/182 (100%)
Strand = Plus / Minus

Query: 1302   agtaagaacatgtcctcatctccgccagccgaaacatggccacatcagctgttctacaag 1361
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74694 agtaagaacatgtcctcatctccgccagccgaaacatggccacatcagctgttctacaag 74635

Query: 1362   ggaaatgttatataagacaacatgtttggttgcctgtgatgaagggtacagactagaagg 1421
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74634 ggaaatgttatataagacaacatgtttggttgcctgtgatgaagggtacagactagaagg 74575

Query: 1422   cagtgataagcttacttgtcaaggaaacagccagtgggatgggccagaaccccggtgtgt 1481
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 74574 cagtgataagcttacttgtcaaggaaacagccagtgggatgggccagaaccccggtgtgt 74515

Query: 1482   gg 1483
              ||
Sbjct: 74514 gg 74513

Score = 357 bits (180), Expect = 5e-95
Identities = 180/180 (100%)
Strand = Plus / Minus

Query: 1124   ttgtccactgccctgccctgaagcctcccgaaaatggttactttatccaaaacacttgca 1183
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84580   ttgtccactgccctgccctgaagcctcccgaaaatggttactttatccaaaacacttgca 84521

Query: 1184   acaaccacttcaatgcagcctgtggggtccgatgtcaccctggatttgatcttgtgggaa 1243
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84520   acaaccacttcaatgcagcctgtggggtccgatgtcaccctggatttgatcttgtgggaa 84461

Query: 1244   gcagcatcatcttatgtctacccaatggtttgtggtccggttcagagagctactgcagag 1303
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 84460   gcagcatcatcttatgtctacccaatggtttgtggtccggttcagagagctactgcagag 84401

Score = 355 bits (179), Expect = 2e-94
Identities = 179/179 (100%)
Strand = Plus / Minus

Query: 4463   gctgggttctttatgtgaatggcagggaaaagataacaaactgtccctcggtgaatgatg 4522
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15196   gctgggttctttatgtgaatggcagggaaaagataacaaactgtccctcggtgaatgatg 15137

Query: 4523   gcagatggcatcatattgcaatcacttggacaagtgccaatggcatctggaaagtctata 4582
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15136   gcagatggcatcatattgcaatcacttggacaagtgccaatggcatctggaaagtctata 15077

Query: 4583   tcgatgggaaattatctgacggtggtgctggcctctctgttggtttgcccatacctggt 4641
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 15076   tcgatgggaaattatctgacggtggtgctggcctctctgttggtttgcccatacctggt 15018

Score = 355 bits (179), Expect = 2e-94
Identities = 179/179 (100%)
Strand = Plus / Minus

Query: 786   agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 845
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117768 agatctaccttctgggagtttttattcaagatgatatggtccactgctcatatctttgtga 117709

Query: 846   tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 905
                |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117708 tgaaggcaaggactgctgtgaccgaatgggaagctgcaaatgtgggacacacacaggcca 117649

```
Query: 906       ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 964
                 |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 117648    ttttgagtgcatctgtgaaaaggggtattacgggaaaggtctgcagtatgaatgcacag 117590


 Score =  345 bits (174), Expect = 2e-91
 Identities = 174/174 (100%)
 Strand = Plus / Minus


Query: 5060     gcattagctgtggggtgccacctcctttggagaatggcttccattcagccgatgacttct 5119
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4110     gcattagctgtggggtgccacctcctttggagaatggcttccattcagccgatgacttct 4051


Query: 5120     atgctggcagcacagtaacctaccagtgcaacaatggctactatctattgggtgactcaa 5179
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 4050     atgctggcagcacagtaacctaccagtgcaacaatggctactatctattgggtgactcaa 3991


Query: 5180     ggatgttctgtacagataatgggagctggaacggcgtttcaccatcctgccttg 5233
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3990     ggatgttctgtacagataatgggagctggaacggcgtttcaccatcctgccttg 3937


 Score =  343 bits (173), Expect = 7e-91
 Identities = 173/173 (100%)
 Strand = Plus / Minus


Query: 4888     gattgcccacgcttaggagggtcagtgcctcatctgagaactgcatctgaagatttaaag 4947
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5982     gattgcccacgcttaggagggtcagtgcctcatctgagaactgcatctgaagatttaaag 5923


Query: 4948     ccaggttccaaagtcaatctgttctgtgatccaggcttccagctggtcgggaaccctgtg 5007
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5922     ccaggttccaaagtcaatctgttctgtgatccaggcttccagctggtcgggaaccctgtg 5863


Query: 5008     cagtactgtctgaatcaaggacagtggacacaaccacttcctcactgtgaacg 5060
                |||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 5862     cagtactgtctgaatcaaggacagtggacacaaccacttcctcactgtgaacg 5810


 Score =  339 bits (171), Expect = 1e-89
 Identities = 174/175 (99%)
 Strand = Plus / Minus


Query: 5352     agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 5411
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1927     agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 1868
```

```
Query: 5412  ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 5471
             ||||||||||||||||| |||||||||||||||||||||||||||||||||·|||||||||
Sbjct: 1867  ttatacagtaggtgccgaagtcacattttcgtgtcaggaaggataccagttgatgggagt 1808


Query: 5472  aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgt 5526
             |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 1807  aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgt 1753



 Score =  329 bits (166), Expect = 1e-86
 Identities = 166/166 (100%)
 Strand = Plus / Minus


Query: 3321  agttccttgtccagaaggaaaattctcgcgttctgggttaatgccctgtcacccatgtcc 3380
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30590 agttccttgtccagaaggaaaattctcgcgttctgggttaatgccctgtcacccatgtcc 30531


Query: 3381  tcgtgactattaccaacctaatgcagggaaggccttctgcctggcctgtcccttttatgg 3440
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30530 tcgtgactattaccaacctaatgcagggaaggccttctgcctggcctgtcccttttatgg 30471


Query: 3441  aactaccccattcgctggttccagatccatcacagaatgttcaagt 3486
             ||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30470 aactaccccattcgctggttccagatccatcacagaatgttcaagt 30425



 Score =  329 bits (166), Expect = 1e-86
 Identities = 166/166 (100%)
 Strand = Plus / Minus


Query: 2599  ggaccaggtggctggggtgcagctaataggctggattactcttacgatgacttcctggac 2658
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43799 ggaccaggtggctggggtgcagctaataggctggattactcttacgatgacttcctggac 43740


Query: 2659  actgtgcaagaaacagccacaagcatcggcaatgccaagtcctcacggattaaaagaagt 2718
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43739 actgtgcaagaaacagccacaagcatcggcaatgccaagtcctcacggattaaaagaagt 43680


Query: 2719  gccccattatctgactataaaattaagttaattttttaacatcacag 2764
             |||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 43679 gccccattatctgactataaaattaagttaattttttaacatcacag 43634
```

Score = 325 bits (164), Expect = 2e-85
Identities = 164/164 (100%)
Strand = Plus / Minus

Query: 960   cacagcttgcccatcggggacatacaaacctgaaggctcaccaggaggaatcagcagttg 1019
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85586 cacagcttgcccatcggggacatacaaacctgaaggctcaccaggaggaatcagcagttg 85527

Query: 1020   cattccatgtcctgatgaaaatcacacctctccacctggaagcacatcccctgaagactg 1079
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85526 cattccatgtcctgatgaaaatcacacctctccacctggaagcacatcccctgaagactg 85467

Query: 1080   tgtctgcagagagggatacagggcatctggccagacctgtgaac 1123
              ||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 85466 tgtctgcagagagggatacagggcatctggccagacctgtgaac 85423

Score = 325 bits (164), Expect = 2e-85
Identities = 164/164 (100%)
Strand = Plus / Minus

Query: 3159   agctcagtgtaaacaaggcacctactcatacagtggacttgagacttgtgaatcgtgtcc 3218
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37503 agctcagtgtaaacaaggcacctactcatacagtggacttgagacttgtgaatcgtgtcc 37444

Query: 3219   actgggcacttatcagccaaaatttggttcccggagctgcctctcgtgtccagaaaacac 3278
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37443 actgggcacttatcagccaaaatttggttcccggagctgcctctcgtgtccagaaaacac 37384

Query: 3279   ctcaactgtgaaaagaggagccgtgaacatttctgcatgtggag 3322
              ||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 37383 ctcaactgtgaaaagaggagccgtgaacatttctgcatgtggag 37340

Score = 323 bits (163), Expect = 7e-85
Identities = 163/163 (100%)
Strand = Plus / Minus

Query: 2998   gtcaattgccctttgggaacctattataatctggaacatttcacctgtgaaagctgccgg 3057
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40577 gtcaattgccctttgggaacctattataatctggaacatttcacctgtgaaagctgccgg 40518

Query: 3058   atcggatcctatcaagatgaagaagggcaacttgagtgcaagctttgcccctctgggatg 3117
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40517 atcggatcctatcaagatgaagaagggcaacttgagtgcaagctttgcccctctgggatg 40458

```
Query: 3118   tacacggaatatatccattcaagaaacatctctgattgtaaag 3160
              |||||||||||||||||||||||||||||||||||||||||||
Sbjct: 40457  tacacggaatatatccattcaagaaacatctctgattgtaaag 40415


 Score =  315 bits (159), Expect = 2e-82
 Identities = 162/163 (99%)
 Strand = Plus / Minus


Query: 4099   ttcagatgcctgtgtgcagctggcttcacaggatcacactgtgaattgaacatcaatgaa 4158
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 18537  ttcagatgcctgtgtgcagctggcttcacaggatcacactgtgaattgaacatcaatgaa 18478


Query: 4159   tgtcagtctaatccatgtagaaatcaggccacctgtgtggatgaattaaattcatacagt 4218
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 18477  tgtcagtctaatccatgtagaaatcaggccacctgtgtggatgaattaaattcatacagt 18418


Query: 4219   tgtaaatgtcagccaggatttttcaggccaaaggtgtgaaacag 4261
              ||||||||||||||||||||||||||| ||||||||||||||||
Sbjct: 18417  tgtaaatgtcagccaggatttttcaggcaaaaggtgtgaaacag 18375


 Score =  272 bits (137), Expect = 2e-69
 Identities = 137/137 (100%)
 Strand = Plus / Minus


Query: 2036   caggggctgaattggtcattaccagaagtcatacacaaggagaccttttccctcaagggg 2095
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 53970  caggggctgaattggtcattaccagaagtcatacacaaggagaccttttccctcaagggg 53911


Query: 2096   agactatagtacagtatacagccactgacccctcaggcaataacaggacatgtgatatcc 2155
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 53910  agactatagtacagtatacagccactgacccctcaggcaataacaggacatgtgatatcc 53851


Query: 2156   atattgtcataaaaggt 2172
              |||||||||||||||||
Sbjct: 53850  atattgtcataaaaggt 53834


 Score =  262 bits (132), Expect = 2e-66
 Identities = 132/132 (100%)
 Strand = Plus / Minus


Query: 1799   aggtgtcagtccacgttcatccagctttcaccccaccttacctttttcccaattggagatg 1858
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 61256  aggtgtcagtccacgttcatccagctttcaccccaccttacctttttcccaattggagatg 61197
```

```
Query: 1859  ttgctatcgtatacacggcaactgacctatccggcaaccaggccagctgcattttccata 1918
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 61196 ttgctatcgtatacacggcaactgacctatccggcaaccaggccagctgcattttccata 61137


Query: 1919  tcaaggttattg 1930
              ||||||||||||
Sbjct: 61136 tcaaggttattg 61125



 Score =  254 bits (128), Expect = 5e-64
 Identities = 128/128 (100%)
 Strand = Plus / Minus


Query: 4639  ggtggtggtgcgttagttctggggcaagagcaagacaaaaaaggagagggattcagccca 4698
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 7980  ggtggtggtgcgttagttctggggcaagagcaagacaaaaaaggagagggattcagccca 7921


Query: 4699  gctgagtcttttgtgggctccataagccagctcaacctctgggactatgtcctgtctcca 4758
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 7920  gctgagtcttttgtgggctccataagccagctcaacctctgggactatgtcctgtctcca 7861


Query: 4759  cagcaggt 4766
              ||||||||
Sbjct: 7860  cagcaggt 7853



 Score =  252 bits (127), Expect = 2e-63
 Identities = 127/127 (100%)
 Strand = Plus / Minus


Query: 4762  caggtgaagtcactggctacctcctgcccagaggaactcagtaaaggaaacgtgttagca 4821
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 6842  caggtgaagtcactggctacctcctgcccagaggaactcagtaaaggaaacgtgttagca 6783


Query: 4822  tggcctgatttcttgtcaggaattgtggggaaagtgaagatcgattctaagagcatattt 4881
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 6782  tggcctgatttcttgtcaggaattgtggggaaagtgaagatcgattctaagagcatattt 6723


Query: 4882  tgttctg 4888
              |||||||
Sbjct: 6722  tgttctg 6716
```

```
Score =  246 bits (124), Expect = 1e-61
Identities = 124/124 (100%)
Strand = Plus / Minus


Query: 2366  aaaaacgttttgcaaaccacgggttcaagtcctttgagatgttctacaaagcagctcgtt 2425
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 51231 aaaaacgttttgcaaaccacgggttcaagtcctttgagatgttctacaaagcagctcgtt 51172


Query: 2426  gtgatgacacagatctgatgaagaagttttctgaagcatttgagacgaccctgggaaaaa 2485
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 51171 gtgatgacacagatctgatgaagaagttttctgaagcatttgagacgaccctgggaaaaa 51112


Query: 2486  tggt 2489
             ||||
Sbjct: 51111 tggt 51108



Score =  244 bits (123), Expect = 5e-61
Identities = 123/123 (100%)
Strand = Plus / Minus


Query: 1680  agacgtggaggctcctcaaatcaactgtcctaaggacatagaggctaagactctggaaca 1739
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 68410 agacgtggaggctcctcaaatcaactgtcctaaggacatagaggctaagactctggaaca 68351


Query: 1740  gcaagattctgccaatgttacctggcagattccaacagctaaagacaactctggtgaaaa 1799
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 68350 gcaagattctgccaatgttacctggcagattccaacagctaaagacaactctggtgaaaa 68291


Query: 1800  ggt 1802
             |||
Sbjct: 68290 ggt 68288



Score =  240 bits (121), Expect = 8e-60
Identities = 121/121 (100%)
Strand = Plus / Minus


Query: 5233  gatgtcgatgagtgtgcagttggatcagattgtagtgagcatgcttcttgcctgaacgta 5292
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3510  gatgtcgatgagtgtgcagttggatcagattgtagtgagcatgcttcttgcctgaacgta 3451


Query: 5293  gatggatcctacatatgttcatgtgtcccaccgtacacaggagatgggaaaaactgtgca 5352
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 3450  gatggatcctacatatgttcatgtgtcccaccgtacacaggagatgggaaaaactgtgca 3391
```

Query: 5353 g 5353
            |
Sbjct: 3390 g 3390

 Score = 234 bits (118), Expect = 5e-58
 Identities = 118/118 (100%)
 Strand = Plus / Minus

Query: 3672   aggcttaaagtgtgaaacagacatcgatgagtgcagcccactgccttgcctcaacaatgg 3731
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 27180 aggcttaaagtgtgaaacagacatcgatgagtgcagcccactgccttgcctcaacaatgg 27121

Query: 3732   agtttgtaaagacctagttggggaattcatttgtgagtgcccatcaggttacacaggt 3789
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 27120 agtttgtaaagacctagttggggaattcatttgtgagtgcccatcaggttacacaggt 27063

 Score = 234 bits (118), Expect = 5e-58
 Identities = 118/118 (100%)
 Strand = Plus / Minus

Query: 3785   caggtcagcggtgtgaagaaaatataaatgagtgtagctccagtccttgtttaaataaag 3844
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 22880 caggtcagcggtgtgaagaaaatataaatgagtgtagctccagtccttgtttaaataaag 22821

Query: 3845   gaatctgtgttgatggtgtggctggctatcgttgcacatgtgtgaaaggatttgtagg 3902
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 22820 gaatctgtgttgatggtgtggctggctatcgttgcacatgtgtgaaaggatttgtagg 22763

 Score = 226 bits (114), Expect = 1e-55
 Identities = 114/114 (100%)
 Strand = Plus / Minus

Query: 2487   ggtcccatcattttgtagtgatgcagaggacattgactgcagactggaggagaacctgac 2546
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 47791 ggtcccatcattttgtagtgatgcagaggacattgactgcagactggaggagaacctgac 47732

Query: 2547   caaaaaatattgcctagaatataattatgactatgaaaatggctttgcaattgg 2600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 47731 caaaaaatattgcctagaatataattatgactatgaaaatggctttgcaattgg 47678

Score = 218 bits (110), Expect = 3e-53
Identities = 110/110 (100%)
Strand = Plus / Minus

Query: 1930   gatgcagaaccacctgtcatagactggtgcagatctccacctcccgtccaggtctcggag 1989
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 55169   gatgcagaaccacctgtcatagactggtgcagatctccacctcccgtccaggtctcggag 55110

Query: 1990   aaggtacatgccgcaagctgggatgagcctcagttctcagacaactcagg 2039
               ||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 55109   aaggtacatgccgcaagctgggatgagcctcagttctcagacaactcagg 55060

Score = 198 bits (100), Expect = 3e-47
Identities = 100/100 (100%)
Strand = Plus / Minus

Query: 3575   aggttttccatgaatgcttctttaacccttgccacaatagtggaacctgccagcaacttg 3634
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 28829   aggttttccatgaatgcttctttaacccttgccacaatagtggaacctgccagcaacttg 28770

Query: 3635   ggcgtggttatgtttgtctctgtccacttggatatacagg 3674
               ||||||||||||||||||||||||||||||||||||||||
Sbjct: 28769   ggcgtggttatgtttgtctctgtccacttggatatacagg 28730

Score = 184 bits (93), Expect = 4e-43
Identities = 93/93 (100%)
Strand = Plus / Minus

Query: 3485   gttttagttcaactttctcagcggcagaggaaagtgtggtgccccctgcctctcttggac 3544
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 30037   gttttagttcaactttctcagcggcagaggaaagtgtggtgccccctgcctctcttggac 29978

Query: 3545   atattaaaaagaggcatgaaatcagcagtcagg 3577
               |||||||||||||||||||||||||||||||||
Sbjct: 29977   atattaaaaagaggcatgaaatcagcagtcagg 29945

>AL158158.14.1.194835
          Length = 194835

 Score = 347 bits (175), Expect = 5e-92
 Identities = 175/175 (100%)
 Strand = Plus / Minus

Query: 5352   agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 5411
               |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194762 agaacctataaaatgtaaggctccaggaaatccggaaaatggccactcctcaggtgagat 194703

Query: 5412   ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 5471
               |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194702 ttatacagtaggtgccgcagtcacattttcgtgtcaggaaggataccagttgatgggagt 194643

Query: 5472   aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgt 5526
               |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct: 194642 aaccaaaatcacatgtttggagtctggagaatggaatcatctaataccatattgt 194588

CGCTCAGGATA...GACTTCG...CGCTAG...GATCGGATCCCCGG... ...ATTATATAGCTCGATCGATC1
TTCTCT'TAT ...C'GCG' ...TGG... ...ATATACACACAC... ...GCG...ATAGCATGACTGATCT/
CCCC/ ... ...CTTCGCATACGTC...C...T... ...G...CT/
CACAGAC ... ACGC ...TCAC ...ACTTACTAACCAAT...G...G...G...G...GAG...

Ḡ Nucleotide

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☐ 1: AL158158. Human DNA sequenc...[gi:13559997]   Links

```
LOCUS       AL158158              194835 bp    DNA     linear   PRI 05-APR-2001
DEFINITION  Human DNA sequence from clone RP11-427L11 on chromosome 9q31.2-32,
            complete sequence.
ACCESSION   AL158158
VERSION     AL158158.14  GI:13559997
KEYWORDS    HTG.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 194835)
  AUTHORS   Williams,S.
  TITLE     Direct Submission
  JOURNAL   Submitted (05-APR-2001) Sanger Centre, Hinxton, Cambridgeshire,
            CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
            requests: clonerequest@sanger.ac.uk
COMMENT     On Apr 6, 2001 this sequence version replaced gi:12733508.
            During sequence assembly data is compared from overlapping clones.
            Where differences are found these are annotated as variations
            together with a note of the overlapping clone name. Note that the
            variation annotation may not be found in the sequence submission
            corresponding to the overlapping clone, as we submit sequences with
            only a small overlap as described above.
            This sequence was finished as follows unless otherwise noted: all
            regions were either double-stranded or sequenced with an alternate
            chemistry or covered by high quality data (i.e., phred quality >=
            30); an attempt was made to resolve all sequencing problems, such
            as compressions and repeats; all regions were covered by at least
            one plasmid subclone or more than one M13 subclone; and the
            assembly was confirmed by restriction digest. The following
            abbreviations are used to associate primary accession numbers given
            in the feature table with their source databases: Em:, EMBL; Sw:,
            SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP
            database can be found at
            http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence
            was generated from part of bacterial clone contigs of human
            chromosome 9, constructed by the Sanger Centre Chromosome 9 Mapping
            Group.  Further information can be found at
            http://www.sanger.ac.uk/HGP/Chr9
            RP11-427L11 is from the library RPCI-11.2 constructed by the group
            of Pieter de Jong. For further details see
            http://www.chori.org/bacpac/home.htm
            VECTOR: pBACe3.6
            This sequence is the entire insert of clone RP11-427L11.
FEATURES             Location/Qualifiers
     source          1..194835
                     /organism="Homo sapiens"
                     /mol_type="genomic DNA"
```

Search [Nucleotide ▾] for [   ] [Go] [Clear]

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☐ 1: AL592463. Human DNA sequenc...[gi:16555526]   Links

```
LOCUS       AL592463               96779 bp    DNA     linear   PRI 30-OCT-2001
DEFINITION  Human DNA sequence from clone RP11-410K21 on chromosome 9, complete
            sequence.
ACCESSION   AL592463
VERSION     AL592463.10  GI:16555526
KEYWORDS    HTG.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 96779)
  AUTHORS   Kay,M.
  TITLE     Direct Submission
  JOURNAL   Submitted (30-OCT-2001) Sanger Centre, Hinxton, Cambridgeshire,
            CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
            requests: clonerequest@sanger.ac.uk
COMMENT     On Oct 31, 2001 this sequence version replaced gi:15131368.
            During sequence assembly data is compared from overlapping clones.
            Where differences are found these are annotated as variations
            together with a note of the overlapping clone name. Note that the
            variation annotation may not be found in the sequence submission
            corresponding to the overlapping clone, as we submit sequences with
            only a small overlap as described above.
            This sequence was finished as follows unless otherwise noted: all
            regions were either double-stranded or sequenced with an alternate
            chemistry or covered by high quality data (i.e., phred quality >=
            30); an attempt was made to resolve all sequencing problems, such
            as compressions and repeats; all regions were covered by at least
            one plasmid subclone or more than one M13 subclone; and the
            assembly was confirmed by restriction digest. The following
            abbreviations are used to associate primary accession numbers given
            in the feature table with their source databases: Em:, EMBL; Sw:,
            SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP
            database can be found at
            http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence
            was generated from part of bacterial clone contigs of human
            chromosome 9, constructed by the Sanger Centre Chromosome 9 Mapping
            Group.  Further information can be found at
            http://www.sanger.ac.uk/HGP/Chr9
            RP11-410K21 is from the library RPCI-11.2 constructed by the group
            of Pieter de Jong. For further details see
            http://www.chori.org/bacpac/home.htm
            VECTOR: pBACe3.6
            IMPORTANT: This sequence is not the entire insert of clone
            RP11-410K21 It may be shorter because we sequence overlapping
            sections only once, except for a short overlap.
            The true left end of clone RP11-410K21 is at 1 in this sequence.
            The true left end of clone RP13-461N9 is at 94780 in this sequence.
```

NCBI

CGCTCAGGAT...GACTTCG...CGCTAG...GATCGGATCCCCGGCG...ATTATATAGCTCGATCGATC1
TTCTCT*TAT...C*GCG*...TGG...TATATACACACAC...CGCGGCATAGCATGACTGATCT/
CCCC...1...CTTCGCATACGTG...CTTd...CT/
CACAGAC...ACGC...TCA...ACTTACTAACCAATTCGGAGA...CGGGCGGA...GCGC...GAG/ nucleotide

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☐ 1: AL354982. Human DNA sequenc...[gi:16214577]   Links

```
LOCUS       AL354982               119077 bp    DNA     linear   PRI 16-OCT-2001
DEFINITION  Human DNA sequence from clone RP11-473H13 on chromosome 9, complete
            sequence.
ACCESSION   AL354982
VERSION     AL354982.12  GI:16214577
KEYWORDS    HTG.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 119077)
  AUTHORS   Clark,S.
  TITLE     Direct Submission
  JOURNAL   Submitted (16-OCT-2001) Sanger Centre, Hinxton, Cambridgeshire,
            CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
            requests: clonerequest@sanger.ac.uk
COMMENT     On Oct 17, 2001 this sequence version replaced gi:15131224.
            During sequence assembly data is compared from overlapping clones.
            Where differences are found these are annotated as variations
            together with a note of the overlapping clone name. Note that the
            variation annotation may not be found in the sequence submission
            corresponding to the overlapping clone, as we submit sequences with
            only a small overlap as described above.
            This sequence was finished as follows unless otherwise noted: all
            regions were either double-stranded or sequenced with an alternate
            chemistry or covered by high quality data (i.e., phred quality >=
            30); an attempt was made to resolve all sequencing problems, such
            as compressions and repeats; all regions were covered by at least
            one plasmid subclone or more than one M13 subclone; and the
            assembly was confirmed by restriction digest. The following
            abbreviations are used to associate primary accession numbers given
            in the feature table with their source databases: Em:, EMBL; Sw:,
            SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP
            database can be found at
            http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence
            was generated from part of bacterial clone contigs of human
            chromosome 9, constructed by the Sanger Centre Chromosome 9 Mapping
            Group.  Further information can be found at
            http://www.sanger.ac.uk/HGP/Chr9
            RP11-473H13 is from the library RPCI-11.2 constructed by the group
            of Pieter de Jong. For further details see
            http://www.chori.org/bacpac/home.htm
            VECTOR: pBACe3.6
            IMPORTANT: This sequence is not the entire insert of clone
            RP11-473H13 It may be shorter because we sequence overlapping
            sections only once, except for a short overlap.
            The true left end of clone RP11-410K21 is at 117078 in this
            sequence. The true right end of clone RP11-427L11 is at 2000 in
```